

E. ACTUARIAL STATUS OF THE TRUST FUNDS

Historically, the actuarial status of the OASDI program has been measured by the actuarial balance, as described earlier in this section. Recent annual reports have shown both medium-range and long-range actuarial balances, which have been computed, respectively, for the 25-year and 75-year valuation periods beginning with the calendar year of issuance of the report. Thus, the medium-range and long-range actuarial balances shown in this report, calculated on a present-value basis, pertain to the periods 1990-2014 and 1990-2064, respectively. Also presented is the actuarial balance for the first 50 years of the 75-year projection period.

As described earlier in this section, a single measure of the actuarial balance over a long period may not reveal problems which could occur during that period. Therefore, in addition to the medium-range and long-range actuarial balances, other indicators of the financial conditions of the program are shown in this report. One is the series of projected annual balances (that is, the year-by-year differences between the projected income rates and cost rates), with particular attention being paid to the level of the annual balances at the end of the long-range period and the time at which the annual balances may change from positive to negative values. Another is the series of projected contingency fund ratios, with particular attention being paid to the amount and year of maximum fund ratio accumulation and to the year of exhaustion of the funds. These additional indicators are defined in the introduction to this section.

The estimates are sensitive to changes in the underlying economic and demographic assumptions. The degree of sensitivity, however, varies considerably among the various assumptions. For example, variations in assumed fertility rates have little effect on the estimates for the early years, because almost all of the covered workers and beneficiaries projected for the early years were born prior to the start of the projection period. However, lower fertility rates have large impacts on the actuarial balance in the later years. Variations in economic factors, such as interest rates and increases in wages and prices, have significant effects on the estimates for the short term, as well as for the long term. In general, the degree of confidence that can be placed in the assumptions and estimates is greater for the earlier years than for the later years. Nonetheless, even for the earlier years, the estimates are only an indication of the expected trend and general range of future program experience. Appendix B contains a more detailed discussion of the effects on the estimates of varying certain economic and demographic assumptions.

Table 26 presents a comparison of the estimated income rates and cost rates by trust fund and alternative. As previously mentioned, the annual income rate excludes net interest income, as well as certain other transfers from the general fund of the Treasury. Detailed long-range projections of trust-fund operations, in nominal dollar amounts, are shown in Appendix F.

The projections for OASDI under the intermediate alternatives (II-A and II-B) show income rates that increase slowly and steadily due to the

combination of the flat payroll tax rate and the gradually increasing effect of the taxation of benefits. The pattern followed by the cost rates is much different. Costs as a percent of taxable payroll are projected to be relatively stable for about 15 years, to increase rather rapidly for the next 30 years (through 2035), to decline slightly for the next 10 years, and to increase steadily thereafter. The relatively high cost rates during the third 25-year subperiod are at a level of about 16.1 percent of taxable payroll under the II-A assumptions and about 16.9 percent of taxable payroll under the II-B assumptions. The income rate during the third 25-year subperiod covers about 81 percent of the cost under alternative II-A and about 78 percent of the cost under alternative II-B.

Attention is called to the projected pattern of the OASDI annual balances (that is, the difference between the income rates and the cost rates). Under alternative II-A assumptions the annual balances are positive for about 30 years and are negative thereafter. This annual deficit rises to 3.42 percent of taxable payroll by 2065. The pattern is similar under the alternative II-B assumptions, but early year positive balances are smaller and later deficits are larger. The deficit rises to 4.16 percent of taxable payroll by 2065 under alternative II-B.

TABLE 26.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1990-2065
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
1990	11.36	9.47	1.89	1.21	1.04	0.17	12.58	10.52	2.06
1991	11.39	9.36	2.03	1.21	1.02	.19	12.59	10.38	2.22
1992	11.39	9.21	2.17	1.21	.99	.22	12.60	10.21	2.39
1993	11.39	9.08	2.31	1.21	.97	.24	12.60	10.05	2.55
1994	11.39	8.92	2.47	1.21	.96	.25	12.60	9.88	2.72
1995	11.39	8.77	2.62	1.21	.95	.26	12.60	9.72	2.88
1996	11.39	8.63	2.76	1.21	.95	.27	12.60	9.58	3.03
1997	11.39	8.50	2.89	1.21	.95	.27	12.60	9.44	3.16
1998	11.39	8.37	3.01	1.21	.95	.26	12.60	9.32	3.28
1999	11.39	8.26	3.13	1.21	.96	.25	12.60	9.22	3.38
2000	11.18	8.19	2.99	1.43	.97	.46	12.61	9.16	3.45
2005	11.24	7.92	3.32	1.44	1.08	.36	12.68	9.00	3.67
2010	11.30	8.13	3.17	1.44	1.23	.21	12.74	9.36	3.38
2015	11.35	8.97	2.38	1.45	1.32	.13	12.80	10.29	2.50
2020	11.42	10.17	1.25	1.45	1.36	.09	12.87	11.53	1.34
2025	11.47	11.11	.37	1.45	1.42	.03	12.92	12.53	.40
2030	11.51	11.58	-.07	1.45	1.39	.06	12.96	12.97	-.01
2035	11.51	11.51	.00	1.45	1.34	.11	12.96	12.85	.11
2040	11.50	11.09	.41	1.45	1.32	.13	12.95	12.42	.53
2045	11.49	10.71	.77	1.45	1.35	.10	12.94	12.07	.87
2050	11.48	10.55	.94	1.45	1.36	.09	12.94	11.91	1.03
2055	11.49	10.50	.98	1.45	1.36	.09	12.94	11.86	1.08
2060	11.49	10.45	1.04	1.45	1.34	.11	12.94	11.79	1.15
2065	11.48	10.35	1.13	1.45	1.34	.11	12.93	11.69	1.24
Alternative II-A:									
1990	11.38	9.51	1.87	1.21	1.06	.15	12.59	10.57	2.03
1991	11.39	9.46	1.93	1.21	1.05	.16	12.60	10.51	2.09
1992	11.39	9.42	1.98	1.21	1.05	.16	12.60	10.47	2.13
1993	11.40	9.37	2.03	1.21	1.05	.16	12.61	10.42	2.19
1994	11.40	9.31	2.09	1.21	1.06	.15	12.61	10.36	2.25
1995	11.40	9.23	2.17	1.21	1.07	.14	12.61	10.30	2.31
1996	11.40	9.14	2.26	1.21	1.08	.13	12.61	10.22	2.40
1997	11.40	9.06	2.35	1.21	1.09	.12	12.61	10.15	2.47
1998	11.40	8.98	2.42	1.21	1.11	.10	12.62	10.09	2.53
1999	11.40	8.92	2.49	1.21	1.13	.08	12.62	10.05	2.57
2000	11.20	8.89	2.31	1.43	1.15	.28	12.63	10.04	2.59

TABLE 26.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1990-2065 (Cont.)
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative II-A: (Cont.)									
2005	11.27	8.76	2.51	1.44	1.30	0.14	12.71	10.06	2.65
2010	11.34	9.07	2.28	1.45	1.50	-0.06	12.79	10.57	2.22
2015	11.41	10.11	1.30	1.45	1.64	-0.18	12.86	11.74	1.12
2020	11.49	11.60	-1.11	1.46	1.71	-0.25	12.95	13.31	-0.36
2025	11.56	12.91	-1.35	1.46	1.80	-0.34	13.02	14.72	-1.69
2030	11.62	13.81	-2.19	1.46	1.79	-0.33	13.08	15.60	-2.52
2035	11.64	14.14	-2.49	1.46	1.75	-0.29	13.10	15.89	-2.79
2040	11.65	14.04	-2.39	1.46	1.76	-0.30	13.11	15.80	-2.69
2045	11.65	13.94	-2.29	1.46	1.83	-0.36	13.11	15.76	-2.65
2050	11.66	14.08	-2.43	1.46	1.87	-0.40	13.12	15.95	-2.83
2055	11.68	14.37	-2.70	1.46	1.87	-0.41	13.14	16.25	-3.11
2060	11.69	14.61	-2.92	1.46	1.85	-0.39	13.15	16.46	-3.31
2065	11.70	14.73	-3.03	1.46	1.85	-0.39	13.16	16.58	-3.42
Alternative II-B:									
1990	11.40	9.54	1.86	1.21	1.06	.15	12.61	10.60	2.01
1991	11.39	9.58	1.81	1.21	1.07	.14	12.60	10.64	1.96
1992	11.40	9.59	1.80	1.21	1.07	.14	12.61	10.67	1.94
1993	11.40	9.61	1.79	1.21	1.08	.13	12.61	10.69	1.92
1994	11.41	9.60	1.81	1.21	1.09	.12	12.62	10.69	1.93
1995	11.41	9.57	1.84	1.21	1.10	.11	12.62	10.67	1.95
1996	11.41	9.51	1.90	1.21	1.11	.10	12.62	10.63	2.00
1997	11.41	9.46	1.95	1.21	1.13	.08	12.62	10.59	2.03
1998	11.41	9.41	2.00	1.21	1.15	.06	12.63	10.56	2.06
1999	11.41	9.37	2.04	1.21	1.17	.04	12.63	10.54	2.09
2000	11.21	9.36	1.85	1.43	1.20	.24	12.65	10.56	2.09
2005	11.29	9.24	2.05	1.44	1.35	.09	12.74	10.59	2.14
2010	11.37	9.52	1.85	1.45	1.56	-0.11	12.82	11.08	1.74
2015	11.43	10.56	.88	1.46	1.70	-0.24	12.89	12.25	.64
2020	11.52	12.09	-0.57	1.46	1.77	-0.31	12.98	13.86	-0.88
2025	11.60	13.46	-1.86	1.46	1.87	-0.41	13.06	15.33	-2.27
2030	11.65	14.43	-2.77	1.46	1.85	-0.39	13.12	16.28	-3.16
2035	11.68	14.80	-3.12	1.46	1.81	-0.35	13.14	16.62	-3.47
2040	11.68	14.73	-3.04	1.46	1.82	-0.36	13.15	16.55	-3.40
2045	11.68	14.62	-2.94	1.46	1.89	-0.43	13.15	16.52	-3.37
2050	11.69	14.77	-3.07	1.47	1.93	-0.47	13.16	16.70	-3.54
2055	11.71	15.06	-3.35	1.47	1.94	-0.47	13.18	17.00	-3.82
2060	11.73	15.31	-3.58	1.47	1.92	-0.45	13.19	17.23	-4.04
2065	11.73	15.44	-3.71	1.47	1.92	-0.45	13.20	17.36	-4.16
Alternative III:									
1990	11.42	9.76	1.66	1.21	1.10	.11	12.63	10.85	1.78
1991	11.40	10.14	1.26	1.21	1.15	.06	12.61	11.29	1.32
1992	11.41	10.15	1.26	1.21	1.17	.04	12.62	11.32	1.30
1993	11.42	10.36	1.05	1.21	1.21	.00	12.63	11.58	1.05
1994	11.43	10.77	.66	1.21	1.29	-0.07	12.64	12.06	.58
1995	11.43	10.70	.74	1.21	1.31	-0.10	12.65	12.01	.64
1996	11.44	10.69	.75	1.21	1.35	-0.13	12.65	12.04	.62
1997	11.44	10.67	.77	1.22	1.39	-0.18	12.65	12.06	.59
1998	11.44	10.66	.78	1.22	1.44	-0.23	12.66	12.11	.55
1999	11.44	10.69	.76	1.22	1.50	-0.28	12.66	12.18	.48
2000	11.25	10.70	.55	1.44	1.53	-0.09	12.68	12.23	.46
2005	11.34	10.60	.74	1.45	1.71	-0.26	12.79	12.31	.48
2010	11.43	10.87	.55	1.46	1.96	-0.50	12.89	12.84	.05
2015	11.50	12.05	-0.55	1.47	2.15	-0.68	12.97	14.20	-1.23
2020	11.61	13.88	-2.28	1.47	2.26	-0.79	13.08	16.14	-3.07
2025	11.71	15.70	-3.99	1.47	2.41	-0.94	13.18	18.11	-4.93
2030	11.79	17.27	-5.48	1.48	2.42	-0.94	13.27	19.69	-6.42
2035	11.85	18.30	-6.45	1.48	2.42	-0.94	13.33	20.72	-7.39
2040	11.89	18.88	-6.99	1.48	2.48	-1.00	13.36	21.35	-7.99
2045	11.92	19.44	-7.52	1.48	2.62	-1.14	13.40	22.07	-8.67
2050	11.97	20.34	-8.37	1.48	2.72	-1.24	13.45	23.06	-9.61
2055	12.02	21.46	-9.43	1.48	2.75	-1.27	13.51	24.21	-10.70
2060	12.08	22.51	-10.43	1.48	2.72	-1.23	13.56	25.23	-11.66
2065	12.12	23.31	-11.19	1.48	2.71	-1.23	13.60	26.02	-12.42

Note: Totals do not necessarily equal the sums of rounded components.

Table 27 summarizes, on a present-value basis, the projected annual figures presented in the previous table. Because any form of summarization involves choices of what to include and exclude in the summarized values, it is important to recognize that these summarized values should not be used as if they uniquely determined the status of the program or the financial effect of proposed modifications to it. These values are principally indicators that point towards possible significant situations projected for the future. As such, they are useful tools in an assessment of the long-range financial condition of the program.

Table 27 first shows the summarized rates for each of the 25-year subperiods, excluding the funds on hand at the beginning of the period. The table next shows the summarized rates including the funds on hand for valuation periods of the first 25 years, the first 50 years, and the entire 75-year period.

The values in table 27 show that the program would generally operate with positive balances over shorter valuation periods. For the first 25-year valuation period the summarizing values indicate positive balances of 3.40 percent of taxable payroll under alternative I, 2.58 percent under alternative II-A, 2.17 percent under II-B, and 0.77 percent under III. Thus, the program is more than adequately financed for the next 25-year valuation period under all four projections. Over a 50-year valuation period, 1990-2039, the program would have positive balances of 2.11 percent under alternative I, 0.69 percent under II-A, and 0.17 percent under II-B; it would have a deficit of 1.83 percent under the most pessimistic assumptions of alternative III. Thus, the program is more than adequately financed for the next 50-year valuation period under all but the most pessimistic set of assumptions.

On the other hand, for the entire 75-year valuation period, the program would have actuarial deficits except for the most optimistic set of assumptions, alternative I. The actuarial balance for this long-range valuation period is projected to be -0.31 percent of taxable payroll under alternative II-A and -0.91 percent of taxable payroll under alternative II-B. Because the 75-year income rate is equal to 97.7 percent of the long-range cost rate under alternative II-A, the program is said to be adequately financed under these assumptions. The program has traditionally been considered to be adequately financed over the next 75 years when the long-range income rate is between 95 percent and 105 percent of the long-range cost rate. However, under alternative II-B assumptions the long-range income rate is only 93.5 percent of the long-range cost rate. Considered separately, the OASI program is adequately financed over the next 75 years under alternative II-A (the long-range income rate is equal to 98.8 percent of the long-range cost rate), but under alternative II-B the long-range income rate is equal to 94.4 percent of the long-range cost rate. For the DI program, the long-range income rate is estimated to be less than 90 percent of the long-range cost rate under both alternative II-A and alternative II-B.

TABLE 27.—COMPARISON OF SUMMARIZED INCOME RATES AND COST RATES BY TRUST
FUND AND ALTERNATIVE, CALENDAR YEARS 1990-2064
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
25-year subperiods: ¹									
1990-2014	11.29	8.46	2.83	1.34	1.07	0.27	12.63	9.53	3.10
2015-2039	11.44	10.86	.59	1.45	1.37	.08	12.89	12.23	.66
2040-2064	11.47	10.62	.84	1.45	1.35	.10	12.91	11.97	.94
Valuation periods: ²									
25 years: 1990-2014	11.58	8.46	3.12	1.36	1.07	.28	12.93	9.53	3.40
50 years: 1990-2039	11.51	9.58	1.93	1.40	1.21	.19	12.91	10.80	2.11
75 years: 1990-2064	11.50	9.89	1.60	1.41	1.26	.16	12.91	11.15	1.76
Alternative II-A:									
25-year subperiods: ¹									
1990-2014	11.31	9.14	2.18	1.34	1.26	.09	12.66	10.39	2.26
2015-2039	11.54	12.80	-1.27	1.46	1.75	-.30	12.99	14.55	-1.56
2040-2064	11.64	14.28	-2.63	1.46	1.85	-.39	13.10	16.12	-3.02
Valuation periods: ²									
25 years: 1990-2014	11.61	9.14	2.48	1.36	1.26	.10	12.97	10.39	2.58
50 years: 1990-2039	11.58	10.81	.77	1.40	1.48	-.08	12.98	12.29	.69
75 years: 1990-2064	11.60	11.74	-.15	1.42	1.58	-.16	13.01	13.32	-.31
Alternative II-B:									
25-year subperiods: ¹									
1990-2014	11.33	9.53	1.80	1.34	1.30	.04	12.67	10.83	1.84
2015-2039	11.57	13.38	-1.82	1.46	1.82	-.36	13.02	15.20	-2.18
2040-2064	11.68	14.97	-3.30	1.46	1.91	-.45	13.14	16.89	-3.75
Valuation periods: ²									
25 years: 1990-2014	11.63	9.53	2.11	1.36	1.30	.06	12.99	10.83	2.17
50 years: 1990-2039	11.60	11.30	.30	1.40	1.54	-.13	13.01	12.83	-.17
75 years: 1990-2064	11.62	12.31	-.69	1.42	1.64	-.22	13.04	13.95	-.91
Alternative III:									
25-year subperiods: ¹									
1990-2014	11.36	10.70	.66	1.34	1.59	-.24	12.71	12.29	.42
2015-2039	11.68	15.88	-4.20	1.47	2.36	-.89	13.15	18.24	-5.09
2040-2064	11.96	20.80	-8.84	1.48	2.68	-1.20	13.43	23.48	-10.05
Valuation periods: ²									
25 years: 1990-2014	11.70	10.70	1.00	1.36	1.59	-.23	13.07	12.29	.77
50 years: 1990-2039	11.69	13.00	-1.31	1.41	1.93	-.52	13.10	14.93	-1.83
75 years: 1990-2064	11.76	14.94	-3.18	1.43	2.12	-.69	13.19	17.06	-3.87

¹Income rates do not include beginning trust fund balances.

²Income rates do include beginning trust fund balances.

Note: Totals do not necessarily equal the sums of rounded components.

Also of interest are the long-range financial conditions of the separate OASI and DI programs. As may be concluded from tables 26 and 27, the OASI program is in much better financial condition than the DI program. The OASI program could operate for several decades (through at least 2040) into the future under all but the most pessimistic assumptions (alternative III), but the DI program would be able to do so only under the most optimistic assumptions (alternative I). The OASI program is projected to have long-range actuarial deficits of 0.15 percent and 0.69 percent of taxable payroll under the II-A and II-B assumptions, respectively, over the 75-year valuation period (including the beginning trust fund balances). The DI program is projected to have long-range actuarial deficits of 0.16 percent and 0.22 percent of taxable payroll under alternatives II-A and II-B, respectively (including the beginning trust fund balances).

Tables 26 and 27 also illustrate the range of possible long-range costs and actuarial balances. For OASI, the cost rate projected for 2065 ranges from a low of 10.35 percent of taxable payroll under alternative I to a high of 23.31 percent of taxable payroll under alternative III. The balances for that year are projected to range from a positive balance of 1.13 percent under alternative I to a deficit of 11.19 percent under alternative III. The summarized cost rate for the 75-year valuation period is projected to range from a low of 9.89 percent under alternative I to a high of 14.94 percent under alternative III. The long-range actuarial balances for the entire 75-year period range from a positive balance of 1.60 percent under alternative I to a deficit of 3.18 percent of taxable payroll under alternative III.

The spread in the DI cost for 2065 is from a low of 1.34 percent of taxable payroll under alternative I to a high of 2.71 percent of taxable payroll under alternative III. The summarized cost rate for the 75-year period ranges from a low of 1.26 percent of taxable payroll under alternative I to a high of 2.12 percent of taxable payroll under alternative III. The DI long-range actuarial balance ranges from a positive balance of 0.16 percent of taxable payroll under alternative I to a deficit of 0.69 percent of taxable payroll under alternative III.

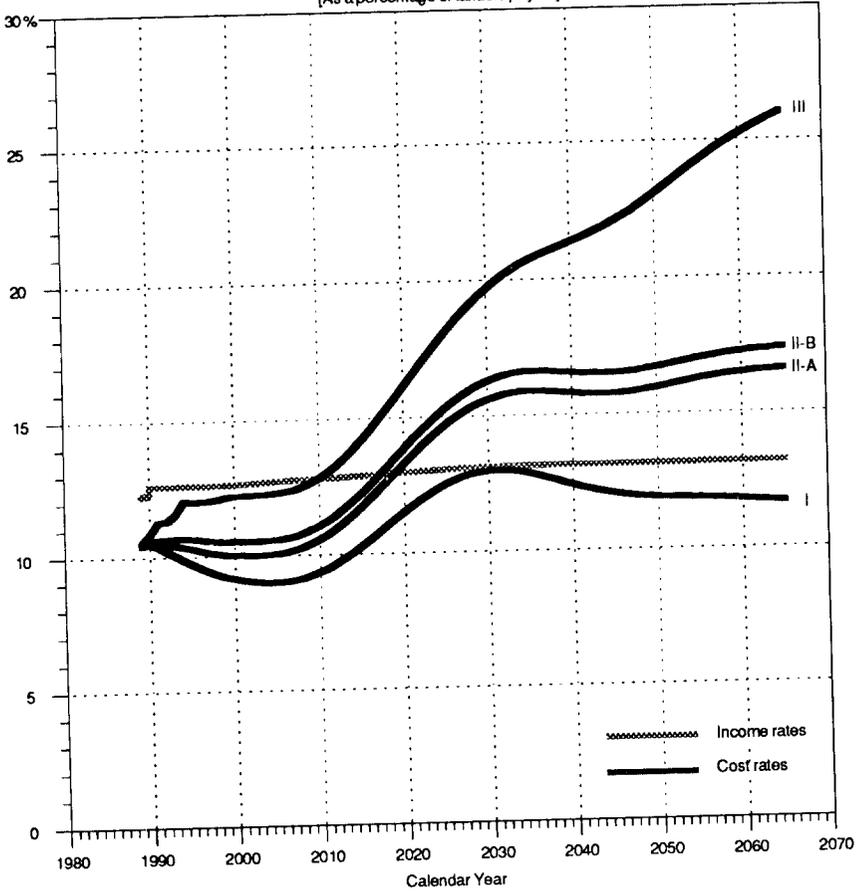
The spread between the lowest and highest projected annual cost rates and balances grows wider as the projections move further into the future. For OASDI the projected spread of cost rates in 2000 is 3.07 percent of taxable payroll (from 9.16 percent to 12.23 percent for alternatives I and III, respectively). By 2025 the spread is projected to increase to 5.58 percent of taxable payroll (from 12.53 percent to 18.11 percent) and by 2050 it is 11.15 percent of taxable payroll (from 11.91 percent to 23.06 percent). Because of the even greater uncertainty in projecting costs and revenues in the more distant future, the Board recommends caution in using the specific values projected.

Figure 2 shows in graphical form the patterns of the OASDI annual income rates and cost rates. The income rates are shown only for alternative II-B in order to simplify the graphical presentation and because, as shown in table 26, the variation in the income rates by alternative is very small. The OASDI long-range summarized income rates for alternatives I and III, for the next 75 years differ by only 0.28 percent of taxable payroll. By 2065, the income rates for each year, under alternatives I and III, differ by only 0.67 percent of taxable payroll. The income rates in figure 2 and table 26 show a distinct increase in 1990, at which time the payroll-tax rate was increased. Thereafter, only small fluctuations are projected, as the rate of income from taxation of benefits varies only slightly, for each alternative, reflecting changes in the cost rate and the fact that benefit-taxation threshold amounts are not indexed.

The patterns of the annual balances are indicated in figure 2. For each alternative, the magnitude of each of the positive balances in the early years, as a percent of taxable payroll, is represented by the distance between the appropriate cost-rate curve and the income-rate curve above it. The magnitude of each of the deficits in subsequent years is represented by the distance between the appropriate cost-rate curve and the income-rate curve below it.

In the future, the cost of the OASDI program, as a percent of taxable payroll, will not necessarily be within the range encompassed by alternatives I and III. Nonetheless, because alternatives I and III define a reasonably wide range of economic and demographic conditions, the resulting estimates delineate a reasonable range for future program costs.

FIGURE 2.—ESTIMATED OASDI INCOME RATES AND COST RATES BY ALTERNATIVE, CALENDAR YEARS 1989-2065
 [As a percentage of taxable payroll]



The components of the annual income rates are shown in table 28, for each alternative set of assumptions. The income rates reflect the scheduled payroll tax rates and the projected rate of income from the taxation of benefits, which reflect changes in the cost rates and the fact that benefit-taxation threshold amounts are not indexed. Summarized values for the annual rates shown in table 28 are presented in table 29.

TABLE 28.—ESTIMATED INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1990-2065
(As a percentage of taxable payroll)

Calendar year	OASI			DI			Total		
	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Alternative I:									
1990	11.20	0.16	11.36	1.20	0.01	1.21	12.40	0.18	12.58
1991	11.20	.19	11.39	1.20	.01	1.21	12.40	.19	12.59
1992	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1993	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1994	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1995	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1996	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1997	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1998	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1999	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
2000	10.98	.20	11.18	1.42	.01	1.43	12.40	.21	12.61
2005	10.98	.26	11.24	1.42	.02	1.44	12.40	.28	12.68
2010	10.98	.32	11.30	1.42	.02	1.44	12.40	.34	12.74
2015	10.98	.37	11.35	1.42	.03	1.45	12.40	.40	12.80
2020	10.98	.44	11.42	1.42	.03	1.45	12.40	.47	12.87
2025	10.98	.49	11.47	1.42	.03	1.45	12.40	52	12.92
2030	10.98	.53	11.51	1.42	.03	1.45	12.40	56	12.96
2035	10.98	.53	11.51	1.42	.03	1.45	12.40	56	12.96
2040	10.98	.52	11.50	1.42	.03	1.45	12.40	55	12.95
2045	10.98	.51	11.49	1.42	.03	1.45	12.40	54	12.94
2050	10.98	.50	11.48	1.42	.03	1.45	12.40	54	12.94
2055	10.98	.51	11.49	1.42	.03	1.45	12.40	54	12.94
2060	10.98	.51	11.49	1.42	.03	1.45	12.40	54	12.94
2065	10.98	.50	11.48	1.42	.03	1.45	12.40	53	12.93
Alternative II-A:									
1990	11.20	.18	11.38	1.20	.01	1.21	12.40	.19	12.59
1991	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1992	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1993	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1994	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1995	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1996	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1997	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1998	11.20	.20	11.40	1.20	.01	1.21	12.40	.22	12.62
1999	11.20	.20	11.40	1.20	.01	1.21	12.40	.22	12.62
2000	10.98	.22	11.20	1.42	.01	1.43	12.40	.23	12.63
2005	10.98	.29	11.27	1.42	.02	1.44	12.40	.31	12.71
2010	10.98	.36	11.34	1.42	.03	1.45	12.40	.39	12.79
2015	10.98	.43	11.41	1.42	.03	1.45	12.40	.46	12.86
2020	10.98	.51	11.49	1.42	.04	1.46	12.40	.55	12.95
2025	10.98	.58	11.56	1.42	.04	1.46	12.40	.62	13.02
2030	10.98	.64	11.62	1.42	.04	1.46	12.40	.68	13.08
2035	10.98	.66	11.64	1.42	.04	1.46	12.40	.70	13.10
2040	10.98	.67	11.65	1.42	.04	1.46	12.40	.71	13.11
2045	10.98	.67	11.65	1.42	.04	1.46	12.40	.71	13.11
2050	10.98	.68	11.66	1.42	.04	1.46	12.40	.72	13.12
2055	10.98	.70	11.68	1.42	.04	1.46	12.40	.74	13.14
2060	10.98	.71	11.69	1.42	.04	1.46	12.40	.75	13.15
2065	10.98	.72	11.70	1.42	.04	1.46	12.40	.76	13.16
Alternative II-B:									
1990	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1991	11.20	.19	11.39	1.20	.01	1.21	12.40	.20	12.60
1992	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1993	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1994	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1995	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1996	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1997	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1998	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1999	11.20	.21	11.41	1.20	.01	1.21	12.40	.23	12.63
2000	10.98	.23	11.21	1.42	.01	1.43	12.40	.25	12.65

TABLE 28.—ESTIMATED INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1990-2065 (Cont.)
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Alternative II-B: (Cont.)									
2005	10.98	0.31	11.29	1.42	0.02	1.44	12.40	0.34	12.74
2010	10.98	.39	11.37	1.42	.03	1.45	12.40	.42	12.82
2015	10.98	.45	11.43	1.42	.04	1.46	12.40	.49	12.89
2020	10.98	.54	11.52	1.42	.04	1.46	12.40	.58	12.98
2025	10.98	.62	11.60	1.42	.04	1.46	12.40	.66	13.06
2030	10.98	.67	11.65	1.42	.04	1.46	12.40	.72	13.12
2035	10.98	.70	11.68	1.42	.04	1.46	12.40	.74	13.14
2040	10.98	.70	11.68	1.42	.04	1.46	12.40	.75	13.15
2045	10.98	.70	11.68	1.42	.04	1.46	12.40	.75	13.15
2050	10.98	.71	11.69	1.42	.05	1.47	12.40	.76	13.16
2055	10.98	.73	11.71	1.42	.05	1.47	12.40	.78	13.18
2060	10.98	.75	11.73	1.42	.05	1.47	12.40	.79	13.19
2065	10.98	.75	11.73	1.42	.05	1.47	12.40	.80	13.20
Alternative III:									
1990	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
1991	11.20	.20	11.40	1.20	.01	1.21	12.40	.21	12.61
1992	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1993	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
1994	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1995	11.20	.23	11.43	1.20	.01	1.21	12.40	.25	12.65
1996	11.20	.24	11.44	1.20	.01	1.21	12.40	.25	12.65
1997	11.20	.24	11.44	1.20	.02	1.22	12.40	.25	12.65
1998	11.20	.24	11.44	1.20	.02	1.22	12.40	.26	12.66
1999	11.20	.24	11.44	1.20	.02	1.22	12.40	.26	12.66
2000	10.98	.27	11.25	1.42	.02	1.44	12.40	.28	12.68
2005	10.98	.36	11.34	1.42	.03	1.45	12.40	.39	12.79
2010	10.98	.45	11.43	1.42	.04	1.46	12.40	.49	12.89
2015	10.98	.52	11.50	1.42	.05	1.47	12.40	.57	12.97
2020	10.98	.63	11.61	1.42	.05	1.47	12.40	.68	13.08
2025	10.98	.73	11.71	1.42	.05	1.47	12.40	.78	13.18
2030	10.98	.81	11.79	1.42	.06	1.48	12.40	.87	13.27
2035	10.98	.87	11.85	1.42	.06	1.48	12.40	.93	13.33
2040	10.98	.91	11.89	1.42	.06	1.48	12.40	.96	13.36
2045	10.98	.94	11.92	1.42	.06	1.48	12.40	1.00	13.40
2050	10.98	.99	11.97	1.42	.06	1.48	12.40	1.05	13.45
2055	10.98	1.04	12.02	1.42	.06	1.48	12.40	1.11	13.51
2060	10.98	1.10	12.08	1.42	.06	1.48	12.40	1.16	13.56
2065	10.98	1.14	12.12	1.42	.06	1.48	12.40	1.20	13.60

Note: Totals do not necessarily equal the sums of rounded components.

TABLE 29.—SUMMARIZED INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1990-2065
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Alternative I:									
25 years: 1990-2014	11.05	0.24	11.29	1.33	0.02	1.34	12.37	0.26	12.63
50 years: 1990-2039	11.01	.36	11.36	1.37	.02	1.39	12.37	.38	12.75
75 years: 1990-2064	10.99	.40	11.39	1.38	.02	1.41	12.37	.43	12.80
Alternative II-A:									
25 years: 1990-2014	11.05	.27	11.31	1.32	.02	1.34	12.37	.29	12.66
50 years: 1990-2039	11.01	.41	11.41	1.37	.03	1.39	12.37	.44	12.81
75 years: 1990-2064	10.99	.48	11.48	1.38	.03	1.41	12.37	.52	12.89
Alternative II-B:									
25 years: 1990-2014	11.04	.28	11.33	1.32	.02	1.34	12.37	.30	12.67
50 years: 1990-2039	11.00	.44	11.44	1.37	.03	1.40	12.37	.46	12.83
75 years: 1990-2064	10.99	.51	11.50	1.38	.03	1.41	12.37	.55	12.92
Alternative III:									
25 years: 1990-2014	11.04	.32	11.36	1.32	.02	1.34	12.36	.34	12.71
50 years: 1990-2039	11.00	.50	11.51	1.36	.04	1.40	12.36	.54	12.90
75 years: 1990-2064	10.99	.63	11.62	1.38	.04	1.42	12.36	.67	13.04

Note: Totals exclude beginning trust fund balances but are otherwise equivalent to summarized income rates shown in table 27. Totals do not necessarily equal the sums of rounded components.

The primary reason that the estimated OASDI cost rate increases rapidly after 2005 is that the number of beneficiaries is projected to increase more rapidly than the number of covered workers. This occurs because the relatively large number of persons born during the period of high fertility rates from the end of World War II through the mid-1960s will reach retirement age, and begin to receive benefits, while the relatively small number of persons born during the subsequent period of low fertility rates will comprise the labor force. A comparison of the numbers of covered workers and beneficiaries is shown in table 30.

TABLE 30.—COMPARISON OF OASDI COVERED WORKERS AND BENEFICIARIES
BY ALTERNATIVE, CALENDAR YEARS 1945-2065

Calendar year	Covered workers ¹ (in thousands)	Beneficiaries ² (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	Total		
Past experience:						
1945.....	46,390	1,106	—	1,106	41.9	2
1950.....	48,280	2,930	—	2,930	16.5	6
1955.....	65,200	7,563	—	7,563	8.6	12
1960.....	72,530	13,740	522	14,262	5.1	20
1965.....	80,680	18,509	1,648	20,157	4.0	25
1970.....	93,090	22,618	2,568	25,186	3.7	27
1975.....	100,200	26,998	4,125	31,123	3.2	31
1980.....	112,212	30,385	4,734	35,119	3.2	31
1985.....	120,098	32,776	3,874	36,650	3.3	31
1986.....	³ 122,960	33,349	3,972	37,321	3.3	30
1987.....	³ 125,548	33,917	4,034	37,952	3.3	30
1988.....	³ 129,564	34,343	4,077	38,421	3.4	30
1989.....	³ 131,934	34,754	4,105	38,859	3.4	29
Alternative I:						
1990.....	132,711	35,372	4,158	39,530	3.4	30
1995.....	140,163	37,241	4,217	41,458	3.4	30
2000.....	146,739	38,392	4,794	43,186	3.4	29
2005.....	152,405	39,498	5,485	44,983	3.4	30
2010.....	156,453	42,326	6,191	48,517	3.2	31
2015.....	158,610	47,647	6,567	54,214	2.9	34
2020.....	159,772	54,381	6,766	61,147	2.6	38
2025.....	161,015	60,597	7,113	67,710	2.4	42
2030.....	163,492	65,160	7,098	72,257	2.3	44
2035.....	167,155	67,341	7,042	74,383	2.2	44
2040.....	171,084	67,342	7,131	74,473	2.3	44
2045.....	174,963	67,150	7,442	74,592	2.3	43
2050.....	178,929	67,677	7,685	75,362	2.4	42
2055.....	183,294	68,898	7,867	76,765	2.4	42
2060.....	188,122	70,281	8,010	78,291	2.4	42
2065.....	193,130	71,598	8,221	79,819	2.4	41
Alternative II-A:						
1990.....	132,792	35,377	4,174	39,550	3.4	30
1995.....	139,030	37,425	4,516	41,942	3.3	30
2000.....	144,595	38,964	5,311	44,275	3.3	31
2005.....	149,204	40,463	6,240	46,703	3.2	31
2010.....	152,613	43,607	7,153	50,760	3.0	33
2015.....	153,654	49,261	7,657	56,918	2.7	37
2020.....	153,196	56,386	7,908	64,293	2.4	42
2025.....	152,303	63,033	8,293	71,325	2.1	47
2030.....	152,054	68,160	8,234	76,394	2.0	50
2035.....	152,498	70,958	8,125	79,083	1.9	52
2040.....	152,876	71,527	8,171	79,699	1.9	52
2045.....	152,850	71,761	8,454	80,215	1.9	52
2050.....	152,462	72,570	8,616	81,186	1.9	53
2055.....	152,166	73,890	8,651	82,541	1.8	54
2060.....	152,121	75,057	8,581	83,638	1.8	55
2065.....	152,168	75,813	8,588	84,401	1.8	55
Alternative II-B:						
1990.....	132,824	35,377	4,174	39,551	3.4	30
1995.....	138,180	37,425	4,515	41,940	3.3	30
2000.....	143,357	38,962	5,308	44,270	3.2	31
2005.....	147,487	40,458	6,235	46,693	3.2	32
2010.....	150,903	43,599	7,143	50,742	3.0	34
2015.....	151,914	49,248	7,641	56,890	2.7	37
2020.....	151,456	56,367	7,888	64,254	2.4	42
2025.....	150,597	63,007	8,268	71,276	2.1	47
2030.....	150,310	68,126	8,268	76,394	2.0	51
2035.....	150,766	70,915	8,096	79,011	1.9	52
2040.....	151,143	71,475	8,141	79,617	1.9	52
2045.....	151,124	71,700	8,423	80,123	1.9	53
2050.....	150,729	72,499	8,584	81,083	1.9	54

TABLE 30—COMPARISON OF OASDI COVERED WORKERS AND BENEFICIARIES
BY ALTERNATIVE, CALENDAR YEARS 1945-2065 (Cont.)

Calendar year	Covered workers ¹ (in thousands)	Beneficiaries ² (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	Total		
Alternative II-B: (Cont.)						
2055.....	150,437	73,811	8,618	82,429	1.8	55
2060.....	150,388	74,971	8,549	83,520	1.8	56
2065.....	150,441	75,722	8,556	84,278	1.8	56
Alternative III:						
1990.....	132,521	35,381	4,187	39,568	3.3	30
1995.....	134,321	37,583	4,835	42,418	3.2	32
2000.....	139,882	39,477	5,980	45,456	3.1	32
2005.....	142,739	41,395	7,223	48,619	2.9	34
2010.....	145,411	44,831	8,383	53,215	2.7	37
2015.....	145,385	50,778	9,018	59,795	2.4	41
2020.....	143,515	58,283	9,303	67,586	2.1	47
2025.....	140,792	65,403	9,716	75,119	1.9	53
2030.....	138,186	71,217	9,595	80,812	1.7	58
2035.....	135,777	74,847	9,425	84,272	1.6	62
2040.....	133,082	76,318	9,426	85,744	1.6	64
2045.....	129,712	77,391	9,674	87,064	1.5	67
2050.....	125,819	78,926	9,717	88,642	1.4	70
2055.....	121,842	80,751	9,536	90,287	1.3	74
2060.....	118,064	82,023	9,163	91,186	1.3	77
2065.....	114,530	82,429	8,890	91,319	1.3	80

¹Workers who pay OASDI taxes at some time during the year.

²Beneficiaries with monthly benefits in current-payment status as of June 30.

³Preliminary.

Note: The numbers of beneficiaries do not include certain uninsured persons, most of whom both attained age 72 before 1968 and have fewer than 3 quarters of coverage, in which cases the costs are reimbursed by the general fund of the Treasury. The number of such uninsured persons was 11,820 as of June 30, 1989, and is estimated to be fewer than 500 by the turn of the century. Totals do not necessarily equal the sums of rounded components.

Table 30 shows that the number of covered workers per beneficiary, which was about 3.4 in 1989, is estimated to decline in the future. Based on alternative I, for which high fertility rates and small reductions in death rates are assumed, the ratio declines to 2.3 by 2030 and then rises to 2.4. Based on alternative III, for which low fertility rates and substantial reductions in death rates are assumed, the decline is much greater, reaching 1.3 workers per beneficiary by 2065. Based on alternatives II-A and II-B, the ratio declines to 1.8 workers per beneficiary.

The impact of the demographic shifts under the four alternatives on the OASDI cost rates is better understood by considering the projected number of beneficiaries per 100 workers. As compared to the current level of 30 beneficiaries per 100 covered workers, this ratio rises by the year 2065 to a significantly higher level, which ranges from 41 under alternative I to 80 under alternative III. The significance of these numbers can be seen by comparing figure 2 to figure 3. For each alternative, the shape of the curve in figure 3, which shows beneficiaries per 100 covered workers, is strikingly similar to that of the corresponding cost-rate curve in figure 2, thereby emphasizing the extent to which the cost of the OASDI program is determined by the age patterns of the population. Because the cost rate is basically the product of the number of beneficiaries and their average benefit, divided by the product of the number of covered workers and their average taxable earnings (and because average benefits rise at about the same rate as average earnings), it is reasonable that the pattern of the annual cost rates is similar to that of the annual ratios of beneficiaries to workers. A graphical presentation of covered workers per beneficiary is shown in the "Summary."

FIGURE 3.—RATIOS OF ESTIMATED OASDI BENEFICIARIES PER 100 COVERED WORKERS BY ALTERNATIVE, CALENDAR YEARS 1989-2065

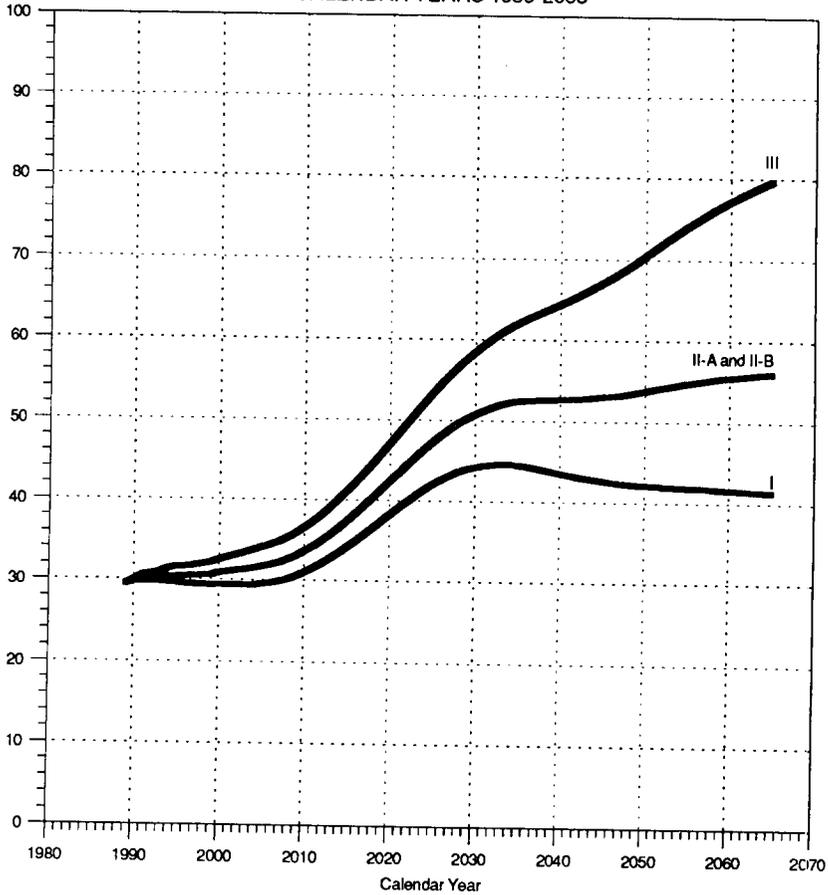


Table 31 shows, by alternative, the estimated contingency fund ratios for the separate and combined OASI and DI Trust Funds. The patterns of the combined fund ratios, over the 75-year period, are shown graphically in figure 4, for all four sets of assumptions. Both the OASI and DI ratios, which are still fairly low, gradually increase to very high levels. Based on alternatives II-A and II-B, the OASI ratio peaks about 2015, when it is 660 percent and 535 percent, respectively, and the DI ratio peaks about 2005, when it is 231 percent and 186 percent, respectively. Thereafter, the OASI and DI ratios decline steadily. Under alternative II-A, the OASI and DI Trust Funds become exhausted in 2060 and 2025, respectively; under alternative II-B, the OASI and DI funds become exhausted in 2046 and 2020, respectively. Based on alternative I, the ratios increase virtually throughout the long-range projection period reaching extremely high levels, around 1,300 and 1,000 percent for the OASI and DI programs, respectively. In contrast, under alternative III, the OASI and DI Trust Funds are estimated to be exhausted within 38 years and 9 years, respectively. Thus, because of the high ultimate cost rates that are projected under all but the most optimistic assumptions, eventually income will need to be increased and/or program costs will need to be reduced in order to prevent the OASI and DI Trust Funds from becoming exhausted.

The OASI and DI funds combined are projected to rise for several years under each of the alternative sets of assumptions. Under alternative I the combined fund ratios are still rising at the end of the 75-year period. The combined fund ratios reach peaks in about 2015 under alternatives II-A and II-B, and in about 2010 under alternative III, before turning down. The combined funds are projected to be exhausted in 2023 under the pessimistic assumptions in alternative III, in 2043 under the intermediate assumptions of alternative II-B (3 years earlier than in last year's report), and in 2056 under the intermediate assumptions of alternative II-A. This means that under even the most pessimistic assumptions the combined OASDI funds and income would be able to cover expenditures for about 33 years into the future and that under the alternative II-B assumptions the OASDI funds and income would be able to cover expenditures for about 53 years into the future. The program would be able to cover expenditures for about 66 years under alternative II-A and for the indefinite future under the most optimistic assumptions in alternative I. In the 1989 report, the combined trust funds were projected to be exhausted in 2025 under alternative III, in 2046 under alternative II-B, and in 2060 under alternative II-A.

TABLE 31.—ESTIMATED CONTINGENCY FUND RATIOS BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1990-2065
[In percent]

Calendar year	Alternative I			Alternative II-A			Alternative II-B			Alternative III		
	OASI	DI	Total									
1990.....	78	41	75	78	41	74	78	41	74	78	40	74
1991.....	100	58	95	99	55	94	98	54	94	95	49	90
1992.....	124	79	120	121	70	115	118	68	113	108	54	102
1993.....	151	103	146	144	85	138	138	81	132	119	56	112
1994.....	181	130	176	168	101	161	159	93	153	129	54	121
1995.....	214	159	209	195	115	187	181	105	173	138	49	128
1996.....	250	188	244	223	129	213	204	114	194	147	41	135
1997.....	288	216	280	252	140	240	227	122	216	157	31	142
1998.....	327	243	318	282	150	267	250	128	237	166	18	149
1999.....	368	268	357	313	157	295	274	132	258	176	2	154
2000.....	409	292	396	343	163	322	298	136	280	185	(¹)	160
2005.....	617	454	597	486	231	453	408	186	379	219	(¹)	180
2010.....	808	520	770	610	220	555	503	163	455	247	(¹)	187
2015.....	910	560	865	660	173	592	535	102	475	236	(¹)	159
2020.....	923	599	885	631	108	564	497	23	436	169	(¹)	84
2025.....	910	615	877	567	26	501	422	(¹)	362	60	(¹)	(¹)
2030.....	900	654	874	489	(¹)	425	329	(¹)	270	(¹)	(¹)	(¹)
2035.....	917	720	897	411	(¹)	347	230	(¹)	172	(¹)	(¹)	(¹)
2040.....	974	784	954	341	(¹)	274	132	(¹)	72	(¹)	(¹)	(¹)
2045.....	1,051	821	1,025	272	(¹)	200	34	(¹)				
2050.....	1,126	861	1,096	196	(¹)	119	(¹)					
2055.....	1,193	910	1,160	111	(¹)	30	(¹)					
2060.....	1,262	969	1,229	16	(¹)							
2065.....	1,342	1,023	1,305	(¹)								
Trust fund is estimated to be exhausted in:.....	(¹)	(¹)	(¹)	2060	2025	2056	2046	2020	2043	2027	1998	2023

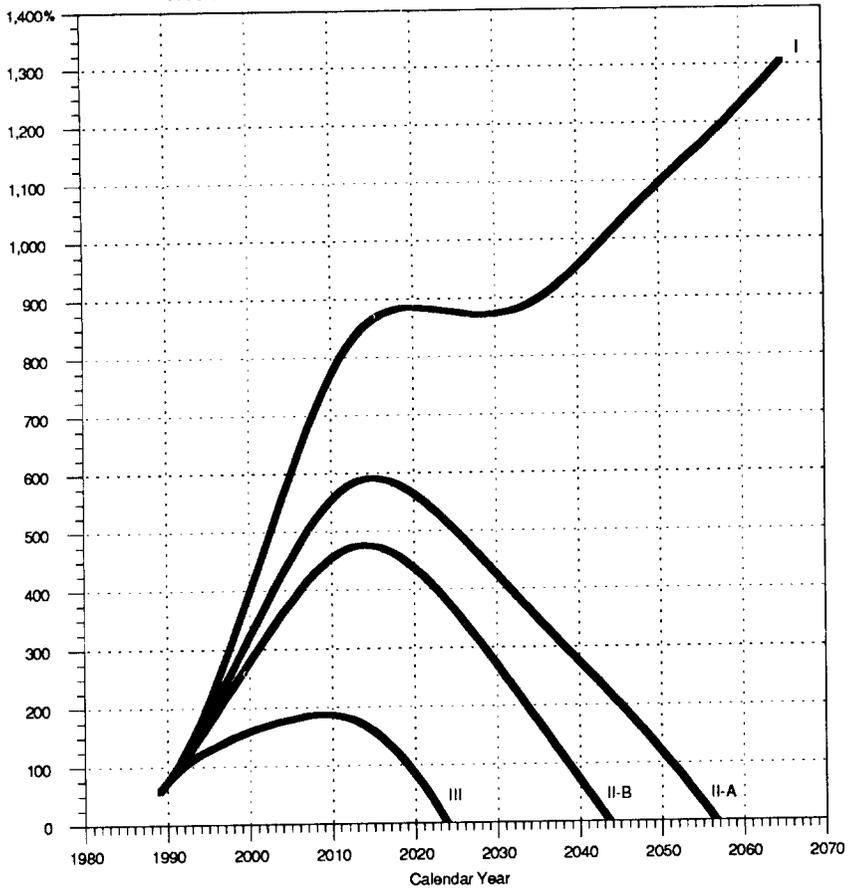
¹The fund is estimated to be exhausted in the year shown in the last line of the table.

²The fund is not estimated to be exhausted within the projection period.

Note: See footnote 2 of table 13 for definition of contingency fund ratio. The OASDI ratios shown for years after a given fund is estimated to be exhausted are theoretical and are shown for informational purposes only.

A graphic illustration of the contingency fund ratios for the combined trust funds is shown in figure 4 for each of the alternative sets of assumptions.

FIGURE 4.—ESTIMATED CONTINGENCY FUND RATIOS, FOR OASI AND DI TRUST FUNDS COMBINED, CALENDAR YEARS 1989-2065



Reasons for changes from last year's report and this report in the long-range actuarial balance under the II-B assumptions are itemized in table 32. Also shown are the estimated effects associated with each reason for change.

TABLE 32.—CHANGE IN ACTUARIAL BALANCE ESTIMATED ON THE BASIS OF ALTERNATIVE II-B BY TRUST FUND AND REASON FOR CHANGE
[As a percentage of taxable payroll]

Item	OASI	DI	Total
Shown in last year's report: ¹			
Income rate.....	11.60	1.41	13.02
Cost rate.....	12.13	1.59	13.72
Actuarial balance.....	-.53	-.17	-.70
Changes in actuarial balance due to changes in:			
Legislation.....	-.01	-.00	-.01
Valuation period.....	-.04	-.01	-.05
Demographic assumptions.....	+ .03	+ .00	+ .03
Economic assumptions.....	-.14	-.03	-.17
Disability assumptions.....	.00	-.01	-.01
Total change in actuarial balance.....	-.16	-.05	-.21
Shown in this report: ²			
Actuarial balance.....	-.69	-.22	-.91
Income rate.....	11.62	1.42	13.04
Cost rate.....	12.31	1.64	13.95

¹Income rates, cost rates, and taxable payroll are calculated on the basis of alternative II-B assumptions, as described in the 1989 report. Several of those assumptions have been modified for this year's report. A description of the modifications is presented in the text of this report. Includes the trust fund balances as of the start of the valuation period.

²Includes the trust fund balances as of the start of the valuation period.

Note: Totals do not necessarily equal the sums of rounded components.

The Omnibus Budget Reconciliation Act of 1989 (Public Law 101-239, enacted on December 19, 1989) included several provisions which affect the long-range cost of the OASDI program. (See Section II. of this report for a detailed description of these provisions.) The only significant effect results from the provision for inclusion of contributions to certain deferred compensation salary reduction plans in the calculation of the average wage index used for updating various OASDI program values. The effect of this provision is a small reduction in the actuarial balance.

In changing from the valuation period of last year's report, which was 1989-2063, to the valuation period of this report, 1990-2064, the balance year of 2064 is included. This results in a decrease in the long-range actuarial balance. (Note that the positive balance for 1989 is, in effect, retained because the funds accumulated during the year are included in the income rate and the actuarial balance for this year's report.)

Several demographic assumptions were modified: (1) the starting population, used in the projection of the Social Security Area population, was updated; (2) the total fertility rate was increased slightly for the first 25 projection years reflecting recently observed birthrates that were higher than expected; and (3) mortality assumptions were revised to incorporate the latest data and analyses. The net effect of these modifications is an increase in the long-range actuarial balance.

Economic assumptions and projected rates of employment were updated to incorporate the latest information and analyses. Slightly higher labor force participation rates are projected based on recent data. The percentage of the population with earnings in OASDI covered employment is projected to be somewhat lower, however, reflecting the increasing percentage of the population that is assumed to be of other-

Similar to table in Summary

than-legal status and thus relatively less likely to have reported taxable earnings. This adjustment corrects an overstatement of the positive effect on the long-range actuarial balance from the assumption of 200,000 annual net other-than-legal immigrants, which was introduced with the 1988 report. Recent data indicate that the ratio of OASDI taxable earnings to earnings in covered employment has declined significantly in the past several years. Reduction in this taxable ratio is assumed to continue at a slower pace through the current decade, after which the ratio is assumed to stabilize. Change in the taxable ratio during periods when the contribution and benefit base is indexed to the average wage level indicates an increasing dispersion in earnings levels among workers. These changes have the net effect of decreasing the long-range actuarial balance by 0.17 percent of taxable payroll. The change in the percentage of covered earnings that is taxable, alone, decreases the estimated long-range actuarial balance by 0.16 percent of taxable payroll.

Projections of the number of disabled beneficiaries were modified to reflect the latest data and analyses. These modifications result in a small reduction in the long-range actuarial balance.

Other assumptions were updated and modified, but the net effect on the long-range actuarial balance is negligible.

The cost of the OASDI program has been discussed in this section in relation to taxable payroll, which is a program-related concept that is very useful in analyzing the financial status of the OASDI program. The cost can also be discussed in relation to broader economic concepts, such as the gross national product (GNP). Discussion of both the cost and the taxable payroll of the OASDI program in relation to GNP is presented in Appendix G.

VII. CONCLUSION

The actuarial estimates shown in this report indicate that the assets of the OASI and DI Trust Funds, on a combined basis, will increase rapidly for many years into the future, under all four sets of economic and demographic assumptions. Based on the intermediate assumptions, the assets of the combined funds will be sufficient to enable the timely payment of OASDI benefits for at least the next 50 years, under alternative II-B, or the next 65 years, under alternative II-A. Even on the basis of pessimistic assumptions, the combined funds will be sufficient to enable the timely payment of benefits for the next 35 years, without any additional legislation to increase income or reduce expenditures. (However, legislation to reallocate contribution rates between OASI and DI might be required at an earlier time.) Both the OASI and DI funds would continue to grow throughout the next 75 years, based on alternative I, so that benefits would be payable during all of the long-range period.

Based on all but the most optimistic assumptions, the assets of the combined trust funds are estimated to decline after the initial, long period of growth, until the combined funds would be exhausted. The estimates show that the combined OASI and DI Trust Funds would become exhausted in 2043, based on alternative II-B and in 2056, based on alternative II-A. Under the pessimistic assumptions, the combined funds would become exhausted in 2023.

The actuarial balance of the OASDI program as a whole over the next 75 years is a deficit of 0.31 percent of taxable payroll, on the basis of the intermediate alternative II-A assumptions. Based on the intermediate alternative II-B assumptions, the long-range balance is a deficit of 0.91 percent of taxable payroll. However, a single measure over a long period, such as the actuarial balance, is not sufficient to measure fully the extent or urgency of any financing problems it may indicate. As explained later in this section, the Trustees do not recommend that any legislative action be taken at this time to resolve the long-range deficit.

The deficit based on alternative II-B in this report is larger than the corresponding deficit of 0.70 percent of taxable payroll in the 1989 report primarily because of the declining trend in the percentage of total earnings in covered employment that is taxable under the Social Security program.

The OASDI long-range estimates based on both alternatives II-A and II-B show a pattern of annual balances that are positive throughout the first 27 or 28 years and negative thereafter. The positive balances are estimated to occur even without taking account of interest earnings. The addition of interest earnings to the positive cash flow results in trust fund growth, in dollars, that continues for about another decade after the annual balances (which do not account for the effect of interest income) first become negative. However, because the disbursements are estimated to increase more rapidly than the assets, OASDI assets decline, relative to annual disbursements. Based on alternative II-B, assets decrease from about 4 1/2 times to about 3 times annual expenditures, during this same time period.

The estimates for each trust fund, separately, indicate that the OASI program can operate satisfactorily for many years, as shown by all four sets of estimates. However, while the DI program would operate satisfactorily for many years on the basis of optimistic or intermediate assumptions such as those designated as alternatives I, II-A, and II-B, it would become exhausted in 1998, on the basis of the more pessimistic assumptions in alternative III.

For OASI and DI, separately, the long-range deficits, based on alternative II-B, are 0.69 percent and 0.22 percent of taxable payroll, respectively. Because the DI deficit is relatively large, compared to its cost rate of 1.42 percent of taxable payroll, the financial condition of the DI program needs to be carefully monitored in the long-range period. It also needs to be carefully monitored in the short-range period because the current DI assets are only sufficient to meet disbursements for about 5 or 6 months.

For the first 25-year subperiod, the OASDI program has a positive balance of 1.84 percent of taxable payroll. However, the balances in the second and third 25-year subperiods are deficits of 2.18 percent and 3.75 percent, respectively. (These balances, which are based on alternative II-B, do not include the funds on hand at the beginning of the projection period.) Thus, in the absence of other changes, the long-range actuarial balance will tend to decline slowly in future annual reports, as the valuation period moves forward and additional distant years of deficit are included in the valuation. The actuarial deficits in the later years of the 75-year projection period are caused primarily by the combination of high cost rates, due largely to demographic trends and relatively flat income rates which result from the flat contribution rate scheduled for 1991 and later and the relatively small increases in income from the taxation of benefits.

The Board notes that, as in the last annual report, the long-range income rate based on the alternative II-B assumptions is less than 95 percent of the long-range cost rate. The program has traditionally been considered to be adequately financed over the next 75 years when the long-range income rate is between 95 percent and 105 percent of the long-range cost rate. However, because the estimates based on the same assumptions show that the program is solvent for several decades into the future, the Trustees do not recommend that any immediate action be taken to change either the financing or the benefit provisions for the OASDI program. The Board believes that the implications of the expected large buildup of the trust funds and possible ways of addressing the deficits projected for distant future years should continue to be the subject of extensive study. The current Advisory Council on Social Security is examining these issues and is scheduled to report its recommendations in January 1991.